

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method for producing a substantially isolated neural cell cells, characterized in that wherein the method comprises carrying out the a suspension culture of embryonic stem cells in the presence of an astrocyte conditioned medium or ingredients substantially equivalent to the conditioned medium to directly produce said isolated neural cells.

2. (Currently Amended) The method for producing [[a]] neural cell cells according to claim 1, wherein the embryonic stem cells are embryonic stem cells of a mammal.

3 (Currently Amended) The method for producing [[a]] neural cell cells according to claim 2, wherein the mammal is selected from the group consisting of a mouse, a cynomolgus monkey, a human and a rat.

4. (Currently Amended) The method for producing [[a]] neural cell cells according to claim 1, wherein the method comprises the step of:

(A) carrying out the suspension culture of embryonic stem cells in the presence of the astrocyte conditioned medium or ingredients substantially equivalent to the conditioned medium, thereby forming a stem cell sphere (SCS).

5. (Currently Amended) The method for producing [[a]] neural cell cells according to claim 4, comprising carrying out after the step (A), the step of:

(B) culturing the stem cell sphere (SCS) obtained in the step (A) in the presence of basic fibroblast growth factor (bFGF) and/or epidermal growth factor (EGF) and in the presence of a cell adhesion molecule, thereby obtaining [[a]] neural stem cell cells as [[a]] cell cells migrated from SCS.

6. (Currently Amended) The method for producing [[a]] neural cell cells according to claim 5, wherein the culture in the step (B) is carried out in the state of adhesion of the stem cell sphere (SCS) obtained in the step (A) to an adhesive culture substratum carrying a cell adhesion molecule.

7. (Currently Amended) The method for producing [[a]] neural cell cells according to claim 1, comprising carrying out the step of:

(A') carrying out the suspension culture of embryonic stem cells in the presence of the astrocyte conditioned medium or ingredients substantially equivalent to the conditioned medium, and in the presence of basic fibroblast growth factor (bFGF) and/or epidermal growth factor (EGF), thereby obtaining [[a]] neural stem cell cells in a stem cell sphere (SCS).

8. (Currently Amended) The method for producing [[a]] neural cell cells according to claim 4, comprising carrying out after the step (A), the step of:

(B') culturing the stem cell sphere (SCS) obtained in the step (A) in the state of adhesion of SCS to an adhesive culture substratum carrying a cell adhesion molecule in the absence of basic fibroblast growth factor (bFGF) and/or epidermal growth factor (EGF) and in the presence of an astrocyte conditioned medium or ingredients substantially equivalent to the conditioned medium, thereby obtaining a neuron.

9. (Currently Amended) The method for producing [[a]] neural cell cells according to claim 4, comprising carrying out after the step (A), the steps of:

(B) culturing the stem cell sphere (SCS) obtained in the step (A) in the presence of basic fibroblast growth factor (bFGF) and/or epidermal growth factor (EGF) and in the presence of a cell adhesion molecule; and

(C) culturing the SCS obtained in the step (B) in the state of adhesion of SCS to an adhesive culture substratum carrying a cell adhesion molecule in the absence of bFGF and/or EGF, thereby obtaining [[a]] glial cell cells as [[a]] cell cells migrated from SCS.

10. (Currently Amended) A method for producing a neuron, comprising the step of culturing the neural stem cell obtained by the method according to claim 1 in the a state of adhesion of the neural stem cell to an adhesive culture substratum carrying a cell adhesion molecule in the absence of basic fibroblast growth factor (bFGF) and/or epidermal growth factor (EGF), and in the presence of the astrocyte conditioned medium or ingredients substantially equivalent to the conditioned medium.

11. (Currently Amended) A substantially isolated Isolated neural stem cell, which [[is]] are differentiated from an embryonic stem cell by the method according to claim 1.

12. (Currently Amended) The neural stem cell according to claim 10, wherein the neural stem cell [[is]] are cryopreserved.

13. (Currently Amended) A substantially An isolated neuron, which is obtainable obtained by the method of claim 8.

14. (Currently Amended) The substantially isolated neuron according to claim 13, wherein the cell expresses at least one kind selected from the group consisting of class III β tubulin, neurofilament, tyrosine hydroxylase, glutamate decarboxylase and choline acetyltransferase.

15. (Currently Amended) A substantially An isolated glial cell, which is obtainable obtained by the method according to claim 9.

16. (Currently Amended) A cell pharmaceutical composition comprising, as an active ingredient, a substantially isolated neural stem cell which [[is]] are differentiated from [[an]] embryonic stem cell by the method according to claim 1.

17. (Currently Amended) A cell pharmaceutical composition comprising, as an active ingredient, ~~a substantially an~~ isolated neuron ~~obtainable obtained~~ by the method according to claim 8.

18. (Currently Amended) A cell pharmaceutical composition comprising, as an active ingredient, ~~a substantially isolated glial cell cells obtainable obtained~~ by the method according to claim 9.

19. (Cancelled)